ABSTRACT

THE DIAGNOSIS OF SPONTANEOUS BACTERIAL PERITONITIS USING LEUKOCYTE ESTERASE STRIP IN COMPARISON WITH THE NUETROPHIL-LYMPHOCYTIC RATIO OF THE ASCITIC FLUID IN CIRRHOTIC PATIENTS

INTRODUCTION:

The decompensated liver disease is on the rise in this decade. The complications of decompensated liver disease such as UGI bleed, HEPATIC ENCEPHALOPATHY and ascitic fluid infections are also on the rise. The infection of the ascitic fluid predisposes to other complications such as hepatic encephalopathy, UGI bleed. Hence ascitic fluid infection should be detected at the earliest and antibiotic therapy started at the earliest so that morbidity and mortality of the DCLD patients can be reduced and also prevented.

BACK GROUND, MATERIALS AND METHODS:

The above study is a prospective observational study involving 100 patients getting admitted in the department of General Medicine, Coimbatore medical College. The duration of the study was 1 year from February 2017-Febraury 2018. The presence of ascites and chronic parenchymal liver disease was confirmed clinically and ultrasonographically. Diagnostic paracentesis was done after getting proper consent. The fluid aspirated was subjected to leukocyte esterase strip test in the bedside. The fluid was subjected to cell

count, biochemical analysis, culture and sensitivity, protein level. The patients were also subjected to LFT, CBC, PT, INR, serum urea. The nuetrophil-lymphocytic ratio of the ascitic fluid was compared with ler strip colour changes whether the results were indicative of sepsis or not.

RESULTS:

From the study of 100 patients it was found that colour changes of the leukocyte esterase kit (purple, pink) indicating the presence of abundant nuetrophils than lymphocytes (nuetrophils between 125cells/mm3 to 250cells/mm3 and more than 250cells/mm3) were statistically significant with the nuetrophil-lymphocytic ratio of infected ascitic fluid($p<.001$). The culture of the above patients revealed microbial growth in the culture such as ECOLI, STREPTOCOCCUS, STAPHYLOCOCCUS, CITROBACTER etc. nuetrophil-lymphocytic ratio >1 was statistically and significantly correlated with purple colour on the ler strip (nuetrophils>250cells /mm3) and the culture of the ascitic fluid also revealed microbial growth in the culture. The nuetrophil-lymphocytic ratio<1,=1 had a statistical an significant correlation with pink colour on the ler strip (nuetrophil count 125 to 250 cells/mm3) and the culture also revealed no growth in the culture. ($p<.001$)

CONCLUSION:

Hence from the above study it is imperative that leukocyte esterase strip kit can be used in the bedside to diagnose spontaneous bacterial peritonitis. So that early ascitic fluid infection can be prevented without the need for waiting

for cell count or culture results and early antibiotic therapy can be started so that morbidity and mortality of the DCLD patients can be prevented.

KEY WORDS : Spontaneous bacaterial peritonitis, decompensated liver disease, upper gastrointestinal bleed, hepatic encephalopathy, leukocyte esterase strip kit, nuetrophil-lymphocytic ratio, ascitic fluid infections, complete blood count, prothrombin time, international normalized ratio, liver function tests, renal funtcion tests, ascitic fluid culture and sensitivity.